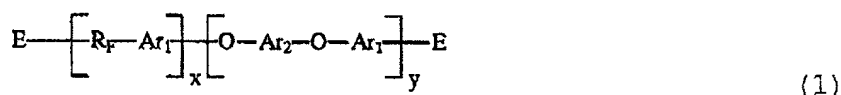
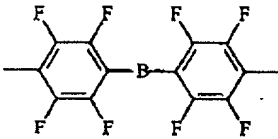



ABSTRACT

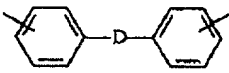
The present invention relates to fluorinated polyethers having a fluorinated aliphatic group at a main chain as represented by the formula (1), as well as a waveguide fabricated using the same:

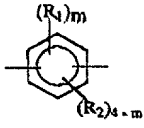


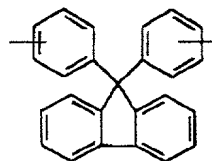
where R_F represents $OCH_2(CF_2)_nCH_2O$, or $OCH_2CF_2O(CF_2CF_2O)_nCF_2CH_2O$, where n is a natural number ranging from 1 to 12;

Ar_1 represents , where B is not present or a $C=O$ group, or

Ar_1 represents , where Hal is one selected from F , Cl , Br and I ;

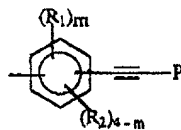
Ar_2 represents , where D is one selected from $-C(CF_3)_2$, $-C(CH_3)_2$, $-CO-$, $-SO_2-$, $-O-$ and $-S-$, or

Ar_2 represents , where R_1 and R_2 are the same or different and each independently represents a halogen atom selected from F , Cl , Br and I , and m is a natural number of 1-3, or



Ar₂ represents

;



E represents H, or , where P is H or a substituted or unsubstituted phenyl group;

x is a number ranging from 0.1 to 1.0;

y is 1.0-x.

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